Wild Eyes, Loyal Hearts: A Journey to Understanding Equus Instincts

An Honors Thesis (HONR 499)

by

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Abstract

Horses have been a part of society since they were first domesticated 6,000 years ago, giving people for the first time the ability to travel up to 35 miles per hour and near 100 miles per day. This changed the way people approached the world, opening up opportunities that had never before been possible. Across history, horses have been used for consumption, managing herds of livestock, war, trade, communication, and recreation. Their vitality in society has lead people to search for faster and more efficient ways to control and manage them. But in the race for ease and speed, many have resorted to actions of violence, pain, and fear that are only effective in the short term and don't bring out the best in a horse because they have strayed too far from the horses' natural instincts. When my favorite horse went blind, I was faced with a choice: reevaluate everything I thought I knew about horses or give up on him and move on. I chose the former, launching myself on a journey of rediscovery where I learned how to truly listen to horses and their wild eyes for the very first time.

Acknowledgments

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I would also like to thank Professor Silas Hansen for sparking my love of creative nonfiction writing, Dr. Tim Carter for changing the way I look at animal behavior, and all the other wonderful professors that have made my college experience worthwhile.

Process Analysis Statement

The aim of this project was to compile and analyze all of the information that I have learned about wild horse behavior through research and observation over the past few years and apply it to the care and use of domestic horses. It took the form of a piece of creative nonfiction despite being very research based due to the lack of formal controlled experimentation and reliance on personal experience with a single horse. For these findings to be widely applicable, more research, observation, and experimentation would need to be done using multiple horses of varying backgrounds and abilities. However, for ethical reasons, this was not possible for my project, as horses are living, breathing beings and I don't believe in inflicting pain, deprivation, or other factors that I was considering purposefully and knowingly.

For my project, I was mostly interested in the use of pain and restriction in horse training, and what happens when those methods are removed from the picture entirely. It is commonly believed in the horse community that because horses are so big and strong, that finding ways to restrict their movement and cause pain are the only ways to ensure control over a horse. It is argued that without control, there is no guarantee of safety, and so the restrictive, painful methods are the only safe way to ride. When my horse went blind, however, I was forced to stop using these methods and find new ones since his fear was so intense that he no longer responded to them. In order to find new methods, I turned to wild horse behavior for inspiration, and soon found that my horse was responding and working for me better than he ever had. This got me thinking that maybe the pain and restriction aren't necessary at all.

I took all the research and information that I had come to by observation, talking to trainers and horse professionals, searching on the internet or in books, and figuring out through trial and error and compiled it along with new research on pain receptors in horses, methods of control in the horse world, and alternative horsemanship in order to come to a conclusion about

the necessity of pain and restriction in the horse world. I came across a lot of resistance as I did so, and realized how deeply entrenched people's ways of working with horses were. As I began to question the traditional equipment and practices, people often scorned my efforts as a misunderstanding of the necessities of horse control. But when asked for evidence to back up their claims of the need for pain and restriction, very rarely could they give me an answer. And when they could, it stemmed from tradition or fear, not from an understanding of horse's natural behavior.

As I continued along this path, I realized that in many ways I was entering into dangerous territory for a horse person. I was questioning the very things that these people had fought their entire lives to forget, the guilt we all felt as children the first time we asked to hit a horse still somewhere in the back of our minds, dying to be acknowledged. I realized that most people wouldn't agree with me if I just told them what I'd discovered. That if I ever wanted to make a difference in the horse community, I'd have to show them. Working with my horse through these natural, pain-free methods was a start, but I'd have to go wider than that. I'd have to use these methods for years with many horses, and even then who knows if I can change anyone's mind. But the good thing is, there is a community of people within the horse world that are journeying down this path of gentle horsemanship with me and if I can even help protect one horse, it will be worth it.

The process of selecting and creating this project involved a lot of forming and reforming new ideas because it wasn't immediately clear to me how to approach it. I knew that I wanted to consider domestic horse training methods in comparison to wild horse behavior, but I wasn't sure how to examine those topics without creating an experiment, which as I previously mentioned, I was unwilling to do due to the ethics of experimenting on animals. But when I

thought about my topic further, I realized how much experience and knowledge I already had on it. The problem wasn't lack of data, it was that all of the information that I had was disorganized and disconnected. So I set out to write a creative nonfiction piece so that I could lay out all of the information and ideas, along with new information that I would research as I realized it was needed, and see the connections to draw conclusions from it all. Once I determined the method for exploring this topic, it fell into place pretty easily. I contacted the IRB and determined that I didn't need approval for my project, met with my advisor to pitch my idea, and started writing.

The biggest challenge of putting together my thesis was trying to find research on pain sensation in horses. Surprisingly, the research that has been done on the topic is extremely limited and the prevailing notion is that because horses are big and muscular that they don't experience pain as intensely as humans. I really had to dig in order to find actual experiments and information on pain receptors and skin and mouth sensitivity in horses. It makes me wonder if big players in the horse industry have actively discouraged this kind of research or if there simply isn't funding for it because no one is actively seeking it. It made me sad to think that people wouldn't want to know, because no matter what the answer is, we should know what we are doing to the animals that we are working with. When I set out to find this research, I wasn't trying to "prove" that riding was evil or that the equipment was—I still ride and have used various forms of riding equipment all my life—I just wanted to know all of the information before I made any decisions or drew any conclusions.

My thesis is a culmination of everything that has been truly important to me in college, though I never could have foreseen that. I created my major, a zoology/psychology integrated degree called Human/Animal Studies, so that I could examine the complicated relationship between people and animals and the ways that we interact and communicate with one another.

My minor, creative writing, is my other passion, so getting to join all of these elements in order to examine an issue that I really care about has been a great experience. I plan to use all that I have learned from this project and from my degree as I continue my work in the horse world and with writing.

Wild Eyes, Loyal Hearts

It's impossible to say exactly when my connection with horses began, but I have vague memories from childhood of hanging out of open car windows to get slightly longer glimpses of horses we'd pass on the road. I remember spending far too long with the ponies at the petting zoo and going to extraordinary lengths to try to keep pony rides going "just one more lap." My mom says I started begging for riding lessons sometime around age six, and refused to be placated by the gentle trail rides she would bring me on. Even before I really knew what the horse world was, I knew that I needed to be a part of it.

It wasn't until age eight that my parents gave in and let me have riding lessons. My dad was a contractor and in between jobs, but my intense begging had gone on for two years at this point, and my parents were running out of will power. Still, money is money, and if it hadn't been for the kindness of my aunt offering to pay and my neighbor offering to teach, it could have been years before I properly learned to ride. Sometimes I think my parents only accepted their generosity because they couldn't stand to hear me beg one more time.

I knew, even then, that my parents didn't expect me to stick with riding. Not only was I a notorious quitter (see: soccer, t-ball, gymnastics, and every style of dance for reference), but I was holding onto a lot of fear, which wasn't helped by the fact that my horse took off after another horse my second ride out, tossing me to the ground to the waiting dirt below. I remember crying, dirt in my eyes, nose and mouth (side-note: I'm still not entirely sure how this happened because I've fallen time and time again after that day and never ended up with dirt in anything other than my skin) and shaking when my coach asked me to get back on. I remember my mom telling me I never had to ride again if I didn't want to. I climbed back in the saddle anyway.

I would later tell people proudly that I'd gotten back up after such a nasty fall (I didn't even get a scrape or bruise, but it seemed nasty at the time) and even trotted, though this was a bold-faced lie. I told it so much I even began to believe it, trying to crush the memories of my fear like yesterday's trash. Because I was so determined to ride, I convinced myself that I was braver than I was. But I knew, deep down, that there were things about riding that absolutely terrified me.

Fear has been an integral part of my riding experience and to pretend otherwise would be nothing short of dishonest. From the time I first cantered to the day I jumped my first fence to the day that jump was raised past a crossbar—the tightening, sickening feeling of fear was beside me to join the journey. To overcome it I looked for ways to feel in control, mimicking the actions of those around me.

If the horse got in your space you hit him so he wouldn't step on you. If the horse was going too fast you put a harsher bit in his mouth so he wouldn't run away. If the horse was scared to go over a jump you smacked him with a spur or crop so he wouldn't refuse and make you fall off. I learned that this was how you gained control in the horse world: by pain and ultimately, by fear.

But the wide-eyed child with a love of horses was still inside of me, and I had to actively force away my discomfort when I saw that fear in the horses' eyes. I told myself control was necessary for safety and my own fear for my life let me believe it, but deep down I knew that something was wrong.

I took small measures, chose slightly lighter bits or put less force into my hits and kicks, but it wasn't until Tex that I truly fought back against these beliefs of fear and control. I met Tex when I was 13 and had been riding five years. I connected with him more deeply than I'd ever

connected with a horse, and yet in many ways I treated him more harshly as well. By the time I met him, I was so fully entrenched in the horse world philosophies, that I almost believed that pain was not only necessary, but the *right* way to ride a horse. The way to be a "good" rider. The way to win competitions and gain respect of others.

Tex was not an easy horse to ride. He threw temper tantrums when he didn't get his way. He kicked out when I tried to saddle him. He tried to bite me when I entered his stall. And yet, we were good together. We won together. And despite everything I loved him and was determined to make it work. Looking back, I'm not even sure I knew what love was at the time. What I knew was how to be the boss, not a partner, not a leader.

I rode Tex for two years before things started to change, relying on the tried and true methods of force which he eventually bowed to, accepting his job in a way that can only be described as bitter. But almost as soon as he had begun to behave, something else changed. He became fearful, acting out more and more but in different ways than before. A firm hand no longer did anything to change his behavior, and the more I fought him the more he fought back. Finally, I called the vet to confirm my worst fears: Tex was going blind.

Even with my limited understanding of exactly what lay ahead, I knew that blindness was a near certain death sentence for a horse. As much as I loved him, he wasn't my horse, he belonged to my coach and her mind was instantly made up. She decided to euthanize him, rationalizing that he'd become more fearful and dangerous with time, that it was the only kind option left for him. But I couldn't accept this. I wouldn't accept this. So I did what was widely considered to be the dumbest thing you could do in the horse world.

I bought a blind horse.

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Before Tex went blind, we competed in the discipline of hunter/jumper, a field entirely dependent on a horse's ability to jump over brightly colored fences. With a lack of sight leaving any sort of jumping out of the question, I set out to find something else for Tex and I to do, forgetting momentarily that I could barely get him in and out of his stall, let alone compete.

I tried coaxing, I tried firmness, and eventually even resulted to begging before I realized that no amount of determination was going to turn my horse back into the horse he was. But there was no turning back now, and I wouldn't even consider it if there was.

In order to better understand Tex and his behavior, I began to research blindness in horses. He had most likely inherited a genetic disorder known as uveitis from his appaloosa blood lines and developed cataracts in one of his eyes. I thought that maybe, if I knew enough about what he was going through, I'd be able to reach him. But I soon realized that no amount of medical research was going to tell me how it felt to be him.

Much of the information on horse blindness that I found was coupled with the same predictable advice: put the horse to sleep. I was devastated, confused, and completely at a loss for how to proceed. It felt like no one else in the world had faith in Tex, that they were just waiting for me to fail. But I had faith in him. I had faith in us.

I changed my approach, watching Tex's behavior and the behavior of the horses around him. I watched how the other horses got him to move, how they approached him, how they communicated with him. I began to do my own research on horse behavior which led me to research on wild horses and the natural ways horses lived in the herds. These new insights led me to modify my own methods in ways that made all the difference for my relationship with Tex. The foundation of these changes rested on 5 basic principles of horse behavior on which I based my new training plan and watched Tex slowly come back to life.

Basic Principle #1: Horses Crave a Leader

Often times in the horse world, the concepts of leader and boss become conflated to the point where people think that the ability to bend a horse's will to one's own is equivalent to being their leader. This is where I was with Tex before he went blind, forcing my own agenda on him by means of control, pain, and even fear. But the respect which comes with leadership was so clearly absent from our relationship that I often wonder how oblivious I must have been to even momentarily confuse what we had for a two-way bond. He learned that I was the boss, yes, but also that my presence was an unfortunate part of his job that he had to deal with and he found no joy in my visits to his stall.

The reason that even many smart, well-educated horse people accidentally confuse the notions of boss and leader comes down to a misunderstanding of the horse's wild behavior. The natural desire of a horse is to exert their dominance by controlling the movement of others. When they are unable to do that, they will yield to the one that controls their movements. Therefore, some people think that this means that the only way to establish dominance over a horse is to restrict their movement. This is why throughout history horses have been trained to be ridden by being tied to poles, hobbled, and forced to the ground with ropes and whips. These are not, however, effective ways to gain leadership of them.

When a horse associates its rider with pain and fear, they begin to think of them the way they would a predator, only doing what they need to do to survive. When you think about it, it is amazing horses can learn to trust us at all, considering we are predators who restrict their movement and climb on their backs in ways totally unnatural to the horse world. In fact, people are often much more similar to a mountain lion, leaping onto a horse's back in attack. It's like us

being forced to trust a lion or tiger and when we don't, being punished for it, which only reinforces our idea that we can't trust them.

But in the wild, horses do control each other's movement to gain respect, so how do we emulate that in our training? Well for one, we stop approaching the horse as a predator would. When a predator stalks a horse, it creeps up slowly from behind and waits for the right moment to pounce. So when we sneak toward a horse in the field (as many do to try to catch them and bring them in), hide the halter behind our backs, and try to grab them off guard, the horse thinks that we are there to harm them. Horses never approach each other this way. They approach head on, heads lifted, in full visual awareness of the other. And if the horse it is approaching decides to misbehave by being aggressive or running away, they chase them, not to catch them, but to send them further away.

Now this may seem counter intuitive, but when a horse sends another away from the herd, that is their way of telling them that they are unhappy with their behavior. Once the horse is separate from the others, it will feel insecure, because they know instinctually that with the herd and their leaders is the safest place for them to be. They will then yield to the other horse's rules in order to be allowed back to the herd, showing them that they are ready to listen by turning an ear toward them, licking their lips, and lowering their head. When the lead horse sees these signs, they let them back into the herd.

We can emulate this assertion of leadership in our training through a method first developed by Monty Roberts known as a "join-up." When a horse misbehaves, the rider acts as the lead horse by sending them away, keeping them running and working in the area around them but not allowing them to return until they show the body language of submission. The horse quickly learns to associate being near the rider as a safe zone where they don't have to

work as much and desire to return there and sees the rider themselves as able to control their movement and therefore worthy of being respected and listened to. When we do this, we are able to act like a herd leader instead of a predator. A predator would grab the horse and force it to stand still but a herd leader would tell it to go away and work until they were ready to stand still.

When Tex first started to go blind, I used this method in a small round-pen clear of any obstacles. At first he was scared and resisted my directions, not trusting that what I was asking of him would keep him safe. But after some time and several tries, he learned to obey and found out that I wasn't going to ask him to do anything that would hurt him. He also learned that by my side was the most enjoyable place to be and that I could lead him effectively. Soon he was not only listening to what I asked him to do, but running to me when I came to get him from the pasture and following me everywhere without a halter or a rope. As we worked, his overall attitude improved as well. He no longer associated me with pain, fear, and hard work, but with safety and leadership.

Pat Parelli, a well-respected horse trainer known for his gentle methods and desire to communicate with horses in their own language, puts it this way: "we've got to be able to know what motivates a horse, what makes them tick, and we've got to know how they feel, think, act and play…if we want the horse to play our game, what we have to do is to be able to give him the needs he has within his basic nature." He defines the concept of exuberance as the horse not only doing what we want to please us, but because they want to do it. It is these horses that we often refer to in the horse world as having "heart." But the truth is, most horses can get to this point if they are trained, conditioned, and cared for properly.

If a horse is in the right discipline for them, they will probably naturally desire to run faster, jump higher, and please us as their riders. If resorting to force is the only way to get the

horse to cooperate, there may be a number of factors at play. One, there could be a medical issue. Two, they may be in the wrong discipline. Some horses are just naturally talented and passionate about one thing and not another, just like humans. Three, they may not yet respect their rider as a leader and want to please them. So all these things should be ruled out before resorting to force of any kind to solve problems. Otherwise you'll be short-changing yourself and your horse with a Band-Aid solution by becoming a predator instead of a leader and the problems will likely return and get worse over time.

Many people think that horses like this just need to be "shown who's boss" and that's where whipping, hobbling, and other methods are employed to gain control. But punishment causes fear, which can cause a horse to resort to using the more primitive side of their brain, sometimes called "the reacting side." In order to get a horse to engage "the thinking side" of the brain instead, negative reinforcement is far more effective. By using pressure (not pain), with a horse until they yield and then immediately removing the pressure, we can teach horses that the right things to do are easy and the wrong things to do are difficult.

This philosophy played a huge part in my work with Tex as I strived to find ways to correct his problematic behaviors without resorting to the methods of pain that had made him fearful and angry and in the first place. I remember my mom watching me with him, a few weeks after our introduction and questioning why I would want to ride such a moody horse. "He just seems so angry," she said, "Like he hates his job and everything about it." I soon came to realize that Tex viewed me and all other riders as predators. He cooperated with us to avoid the paid of the bit and whip but made his displeasure known. The main problem was that he was turned into a "lesson horse," meaning that he was used by multiple riders of different ages and experiences, when he was barely 3 years old. Not only was he far too young to have this kind of work

expected of him, it meant that he had no consistency and no chance to build a bond with any of the riders. He didn't see them as his leader, and he felt no respect toward them or desire to serve them.

It took me a long time to understand these things about Tex, and I spent a lot of time trying to force him into loving me. I brought him treats, hugged him, and told him that I loved him but none of those things teach a horse to love you. In fact, the only thing it did was make him pushier, expecting to receive food and attention from me whenever he so desired, but without any respect or care for me. Our relationship became more and more strained and came to a turning point when he lost his sight. Finally, I was forced to change my approach and learn to act for him. In the words of Pat Parelli, "we need to do things with the horse and for the horse and not to the horse."

Basic Principle #2: Horses Have Complex Communication

"Horse whispering" is a term often used to describe natural horsemanship methods. The idea is that people who are in tune with the horse can whisper to them to get them to do what they want. But in order to whisper to a horse, we must first learn to listen. We must understand their language and their minds and remember that communication should always be two ways.

Dr. Carey A. Williams, an Extension Specialist in Equine Management, identified the basic posturing, vocals, and movements of horses in each emotional state. Her findings showed that if a horse is happy, alert, or excited, their tail will be high, they'll be standing or running at attention, their ears will be forward, and their nostrils may be flared. But we have to be careful, because a lot of these signs, such as a high tail and flared nostrils can also mean that they are nervous or scared. That's why it is also important to pay attention to nonvisual cues such as their vocals, their breath, and if riding, the feel of them underneath us. If a horse is happy, alert, or excited, they will likely be breathing evenly if not a little quickly and they may snort, nicker (a low-pitched and quiet rumble), or whinny (a high pitched call).

If the horse begins to swish their tale, paw with their front legs, or stamp their feet, this is an indication that they are agitated. They may still have a high tail and flared nostrils, but will probably have their ears pinned back toward their head. If they are alarmed, they may push air through their nostrils forcefully (called blowing) and the whites of their eyes may show. They may also neigh (like a whinny but more frantic) and even prep to run or fight.

If a horse has one of their legs lifted (especially a back leg), has their mouth open and teeth exposed, and especially if their ears are pinned, this means watch out! The horse is preparing to attack. However, many of the signs that people generally associate with aggression

such as stamping feet or snapping jaws are harmless. Stamping feet is generally to get rid of flies and snapping jaws is actually a sign of submission.

Other behaviors that a rider should be aware of are signs of exhaustion or pain: low tail, droopy or "airplane" (parallel to the ground) ears, and of course limping, favoring one side, or refusing to perform behaviors that are normally easy for them. I can't even count the number of times I've seen a rider complain about a horse's behavior, only to find later that there was a medical explanation for it. This happened for me with Tex, when he first started going blind.

He started refusing to jump, side-stepping puddles and other obstacles he easily walked over before, and became spooky (nervous, jumpy) at the slightest little thing. At first I was frustrated, confused at why he was suddenly being so difficult for me. It took some time before I even thought to ask what he was trying to tell me. When I finally listened and decided to call the vet, he had lost a significant portion of his sight and was going downhill fast. By the time I made the decision to buy him, he was almost entirely blind.

Until that point, I had been so concerned with the things that I was trying to tell Tex that I had been ignoring the things he was trying to tell me. I resolved to try harder to listen, relying on the body language of horses that I had been taught growing up. I knew the basics of their expression, but I was amazed by how little I had been paying attention to it. I realized that like many people in the horse world, I was primarily concerned with the language of horses only when it affected me. I knew the signs that could put me in danger or keep me from getting what I wanted (ie the horse was angry, upset, or hurt) but I paid little attention to the more subtle aspects of their moods and emotions. Once I started paying attention to these things, I was able to learn what Tex liked and disliked, whether what I was doing was working, and what Tex needed from me and others. When I started responding to these needs and preferences, it

strengthened our relationship as he was able to see that I was actually looking out for him and not just myself.

Basic Principle #3: Horses are Prey Animals

Tex wasn't my horse at the time he went blind, but by then I'd been riding him for over 2 years and I was more than a little attached. I had always dreamed of one day buying him, of taking him to competitions and becoming lifelong partners on the show circuit. His owner, my coach and owner of the barn I rode at, didn't have such feelings for him. For her, he was one of seventy horses and she had to be practical. Even in the best case scenario, a blind horse at a hunter jumper barn wouldn't exactly be a money-maker. And worst case scenario, he could put her students in danger.

But I was young and idealistic and all I could think about was my love for the horse who'd been by my side for the past two years. I began to work two jobs, create financial plans, and pitch my parents nightly on the idea of bringing Tex into the family. They were hesitant on taking on such a financial responsibility, but the real resistance actually came from the horse community itself. Blind horses had a reputation of being dangerous. It seemed everyone but me was on the same page: euthanasia was the kindest thing to do.

But these recommendations came down to a simple misunderstanding of the horse's natural instinct to flee. I was told stories of others' experiences with blind horses and was warned that they turn aggressive, unmanageable, and dangerous. Indeed, Tex did become difficult to manage as the disease took his vision more and more away, and it would have been easy to mistake his behavior as aggression. But he wasn't trying to hurt anyone. He was just afraid.

Horses are prey animals, which means that flight is their primary means of survival. They have a large number of natural predators such as cougars, wolves, and bears. As adheres to Charles Darwin's theory of evolution, the horses that were the most able to spot these predators and get away the fastest were the ones that survived to reproduce and pass on their genes. The

result is a species evolved for speed and sensitivity with long legs, sharp senses, and fast reflexes.

Unlike a dog, which evolved from the predator species of wolves, a horse's natural instinct is not to fight. Their instinct is to get away, as fast as possible, from any stimulus that is potentially harmful. Many people try to train horses without considering this, forcing them toward whatever is scaring them with force. But the forceful tactics only make the horse surer that the object is something to be feared, and they will try harder to get away, resulting in them being labeled as "spooky," "prone to bolting," or "unsafe."

Sometimes, the horse will even respond with aggression, when they feel cornered and unable to escape whatever is scaring them. But their goal is still the same: to get away. They don't want to hurt the person who's pressuring them into a situation where they feel unsafe, they just want to get them to release the pressure so they can run. In those moments, survival mode has clicked on in the horse's brain, and they can't think of anything else except finding a way to keep living another day.

It is easy to understand why this behavior is often misunderstood by horse-handlers, especially when the so called life-threatening object is a plastic bag, and umbrella, or a colored jump that they just jumped over the day before. But to understand it from the horse's perspective, one has to consider how differently their brains are wired from ours. First, they are extremely sensitive to stimuli, especially movement because their sight is the primary way in which they detect danger. However, as Dr. Williams demonstrates in her research, because of the placement of their eyes (one on each side of their head instead of both in the front, like humans) they have poor depth perception. They have evolved this type of sight because it helps them see all of their surroundings at once, minus a small blind spot directly behind and in front of them, but it can

lead to a host of problems too. For one, seemingly harmless stimuli such as a puddle or horse trailer look like endless holes when viewed with only one eye, so a simple turn of the head can mean absolutely terrifying images for the horse.

Another problem that arises from this sight is that a horse can see two things at one, one on each side, but each side of their brain works separately to perceive them. So a horse may see something with one eye one day and determine that it is harmless, but see it the next day with the other eye and be terrified all over again. That's why when working with horses, they need to be taught and shown things from both sides, a strange concept for humans who have no experience with such a need.

When presenting a horse with any new stimuli, it is important that they get a good look at it with each eye in a comforting environment where they don't feel trapped and unable to flee. This will help them categorize it immediately into the "benign" category of their mind, and helping them put it there in the first place is a lot easier than attempting to move it from the "harmful" category later. Understanding this was a revelation for me, in understanding the behavior of the horses I'd worked with in the past, but it still left me with a major problem. My horse was losing his primary method of detecting danger. If he could no longer use sight to determine things were safe, would he think that everything was dangerous?

As Tex lost his sight, he began to see shadows and movement instead of full images. This was the most difficult time of the process, as everything looked scary to him and he felt unable to run without running into anything. He felt trapped amongst his demons, and I knew it, but I wasn't sure how to help him. So again, I turned to the wild horses to see if I could get a clue.

In addition to their sight, horses also rely heavily on hearing and touch senses, which are much more sensitive than our own. According to Dr. Williams, a horse's ears have a

combination of 10 muscles that allow them to turn 180 degrees, whiskers to feel the space in front of them, and the ability to hear a wide range of frequencies from 14 hz to 25khz. Despite their size, a horse's whole body is extremely sensitive and allows them to feel the slightest movement, such as a fly landing on their back. I decided to use these senses to communicate with Tex.

The first thing I changed about my training routine, was to talk to him at all times as we worked. Of course I knew he didn't understand much of what I said, so it felt a little silly at first, but soon narrating our activities became second nature and it became easier to come up with things to say. I could see him relax as we worked because he knew where I was at all times and could tell from my voice that I was calm. As he relaxed, he became more accepting of the routine, quickly remembering how normal it was to be brushed, saddled, and led. Pretty soon, a kind word here and there was enough to sooth him.

Whenever Tex came across something that scared him, I talked him through the encounter, speaking softly until he relaxed. I would let him move away from the object, slowly leading him back to it as he was ready, and walked ahead of him to show him I wasn't afraid. He followed behind me, keeping his nose to my back to keep track of me, and if I could I would lift the offending object and let him touch it. Soon he realized, between my reaction and his own interaction with the thing, that it was nothing to be feared after all.

By taking it slow and never resorting to force, I was able to keep Tex from panicking, which meant he never felt pressured to resort to aggressive behavior. I acknowledged his instinct to flee and calmly but firmly showed him that it wasn't necessary and soon he learned to trust that I knew what I was talking about. When people ask me how he's doing now, 6 years after the day I bought him, I can see the nervousness in their eyes. They are worried about what I may tell

them, what he may have become in the time that's passed. But I can honestly tell them, with a wide smile on my face, that Tex is one of the safest, most well-behaved horses I have ever worked with. He responds to the lightest leg pressure, pays attention to me at all times, and is eager to please and perform. And all it took was understanding his prey instincts, his desire to flee, and his sensitivity.

Basic Principle #4: Horses are Social Animals

One of the first things that I was advised by many upon my purchase of a blind horse was to isolate him from the other horses so that he wouldn't get hurt, and this wasn't the first time I'd received such advice. Even before he went blind, I had people wincing at every cut and scrape he got from living with a herd and was told time and time again that such a situation was dangerous. For a while I believed them, placing Tex by himself in a small, even-ground paddock where I could keep an eye on him and bring him in if he got into trouble. I remember watching him as the other horses rushed out to the big pasture, crying out to them frantically and running back and forth along the gate. He may have been safe, but he certainly wasn't happy. Maybe, I thought, people weren't the best judge of what he needed.

In the wild, horses are never isolated. If they do get separated from the herd for any reason, it is cause for panic and upset, as a lone horse is far more vulnerable to predators. For safety, socialness, and mating purposes, horses stick together in large groups. According to Dr. Sue Stuska, a Wildlife Biologist for the National Park Service, there may be up to 100 horses in a given area, and they divide themselves into bands of 5-20 which stay close to one another at all times.

The family bands are not random or loosely formed, but follow a predictable structure led by an alpha stallion (male) and lead mare (female), Dr. Stuska found. They are followed in rank by the beta stallion, the rest of the mares, and their foals (offspring). When the foals are between 1 and 3 years old, the fillies (young females) generally move to another family band and the colts (young males) are banished by the alpha stallion. The colts will stay near, but just outside the family band until they find other banished colts, at which point they will create what is called a bachelor band. These bachelor bands roam the plains and wait for the alpha stallions of neighboring family bands to grow old or sickly so that they can fight them off and replace them

as the head of the group. It's a harsh reality for the horses, for sure, and it leads to an undeniable instinct to stay as close to the other horses of their band as possible, in the wild or in captivity.

Faced with this new understanding of a horses' desire to be close to their peers, I was struck with a new dilemma. While I was willing to risk the small dangers of the herd with a horse with sight, I now had a horse who was being bullied, chased into pointy branches, and tripping over hay bales, creeks, and boulders. Locking him up alone in a small pasture clearly wasn't working, but turning him free with the others was no longer an option. In the wild, bands may be natural, but blind horses wouldn't make it a single day, either.

I settled on a compromise: a medium sized-pasture that had been cleared of trees, boulders, and other potential hazards with a group of 4 horses with gentle temperaments. Tex instantly relaxed, seeming much happier with the whole arrangement. But I began to notice how limited his time in the pasture was.

If it rained, if it snowed, when it got dark, and when it was muddy, the owner of the barn would bring in the horses, placing them in their isolated 12'x12' stalls. Tex got restless, pacing in circles until the bedding on the floor was worn down to nothing and calling loudly to his group that he could no longer see or touch. Other horses dealt with it differently, tossing their heads, chewing the walls, and even biting at themselves. But one thing was clear, they weren't happy, and in an effort to keep the horses comfortable, the owner was doing the exact opposite.

In the wild, horses spend their days following the lead mare, who leads the band from place to place to graze, drink, and explore while the alpha stallion watches for danger. According to wild horse research by American Expedition, the horses spend between 12 and 16 hours grazing, eating up to 6 pounds of vegetation and traveling up to 20 miles over rough terrain.

They sleep in small spurts, usually while standing and taking turns keeping watch, and spend the rest of their days playing and interacting with the band.

The barn where I boarded Tex kept the horses in their stalls for about 15 hours a day, and sometimes more if the weather was bad. But the worst part was that it was considered a barn with a lot of turnout, and many people will keep their horses in stalls for days, weeks, and even months upon end in order to prepare for shows, prevent injury, or "protect" their horses in some other way. When horses are in stalls, they can't run, graze, play, or even interact with others most of the time so they invent new ways to stimulate themselves including behaviors that are destructive and harmful.

For example, a horse may crib, or bite onto a part of their stall and suck air with their neck arched, when they are bored. Dr. Williams found that this behavior causes a release of endorphins, so it can quickly become addictive and can lead to tooth wear, colic (gastrointestinal pain that can be fatal), and can even lead the horse to neglect eating and drinking in favor of the activity. In order to prevent the behavior, people often buy cribbing colors, which tighten on the horse's neck and prevents them from sucking the air. But these are rarely effective and even when they are, still fail to address the root of the problem and lead to a horse to replace one unhealthy behavior with another. Horses may also weave (swinging their head back and forth by dramatic weight shifting), kick the stall, paw, dig, chew wood, eat the bedding, or even result to self-mutilation in an attempt to relieve their boredom. These behaviors can lead to weight loss, nutritional problems, property damage, tooth wear, proneness to illness and injury, poor performance and weakened tendons.

People who keep horses in stalls for extended periods of time usually have the best intentions. They love their horses and want to protect them from the elements, other horses, and

injury. They romanticize the image of their horse warm and cozy inside, the way they would want to be, when the wind is hollowing or the rain is falling or the day is just too hot or too cold. They may even put a blanket on them when the temperature drops, picturing that the horse is, as the owner of my barn put it, "snug as a bug!" But the truth is, horses are not cave dwellers. They don't desire a warm, closed in box to protect them from the elements. And given the choice, most of them will choose to be outside even in the rain, snow, wind, or sun.

Horses don't rely on walls or blankets to keep them "nice and warm." They rely on movement, caloric intake, and their own natural abilities to protect them against the elements. Their size, fur, and metabolism leaves them well-equipped to deal with the changing temperatures and stalls stop them from moving and grazing while blankets stop the natural temperature-regulating coat from growing. In addition, people tend to over-compensate for the cold, closing the barn doors and layering heavy blankets on the horse, thinking that they will respond to the cold in a similar way that people do. But because horses can be over 10 times the size of a person, their bodies respond to cold in very different ways.

In his 2017 mammology lecture, Dr. Timothy Carter explained that as the body size of a mammal increases, their relative surface area decreases, leading them to have a lower surface area to volume ratio. This lower ratio leads to a slower rate of heat loss and evaporation, so it takes less relative energy for large mammals to heat themselves than for small mammals. He pointed out that if this property of evolution didn't exist, large mammals would not have been able to evolve because they would have to eat at every second in order to maintain their body temperature. But what many people don't understand about this, is that it also means that it is far easier for a smaller mammal to cool itself than a larger mammal. When people put heavy

blankets on horses or keep them locked in closed off stalls, they often make it difficult for the horse to cool itself and can cause discomfort, sweating, and even illness.

When I realized how I was harming Tex with my desire to keep him inside and blanketed, I began to insist that he be out longer and longer even during the night, rain, or snow. I also refused to put a blanket on him, even as the days and nights got colder and colder. Without the man-made inventions, Tex was able to regulate himself and spend more of his time doing the things that were natural and comfortable for him. Not only did this do wonders for his wellbeing, it improved his attitude as well.

Basic Principle #5: Horses Only Use Force as a Last Resort

It is a common idea in the horse world that a forceful hand is the only way to "show a horse who's boss." Many have even gone as far as to say that without force, the horse will learn to walk all over you, creating a dangerous, unmanageable situation. And by force, what they really mean is pain: the pinch of the bit in their mouth, the sharp smack of a crop on their flank, the dull ache of a spur in their side.

When I first started riding Tex, before he was even showing signs of blindness, my coach told me to ride him in a double twisted wire bit. A bit is the piece of metal that sits in horses' mouth in most riding disciplines. It attaches to the reins of the bridle and when pulled, puts pressure on different parts of the mouth depending on the structure and style of the bit. A double twisted wire is considered a moderate bit, the twist in the metal creating a sharper pinch than some bits but the double bar creating more surface area to spread out the sensation and make it less severe than others. I didn't like the look of it the moment I saw it, but I didn't feel qualified to make the judgement for myself. So, I put it on him and went out to the arena.

Bits come in all shapes and sizes, each and every one claiming to be the miracle that will cure every behavior problem from head tossing to bolting and everything in between. Dr. Dwight G. Bennett, a horse veterinarian, describes bits in terms of their structure. The mouthpiece itself may be single, double, solid, or jointed. The most common is a single jointed mouthpiece called a snaffle which puts less pressure on the tongue than solid bits, and more pressure on the bars and lips. The snaffle is considered one of the mildest bits you can get and is often used to introduce young horses to a bridle. It provides a direct line from the reins, which the rider holds, to the point of contact with the horse's mouth but doesn't afford the rider mechanical advantage, meaning that their force is only as strong as their pull. Ironically, once a horse learns to accept

the mild bit, it is then that they are usually subjected to harsher and harsher ones until they can no longer be ridden in the bit they were first trained in.

Dr. Bennett points out that a bit's severity depends on many factors, one of the primary ones being its diameter. The narrower it is, the harsher it is because it has less surface area to spread the contact in the mouth. Another factor is what is known as the shank, a piece of metal on each side of the bit that extends below the mouth of the horse. The longer the shank, the more severe the bit, providing more pain to the horse's tongue and bars when pulled. Bits with shanks are called curb bits. Curb bits often also have chains which sit below the horse's chin and cause pressure on their jaw when the reins are pulled. There are also double bridles which have two full bits (the double twisted wire has two bars, but is still on bit). The double bridle has a snaffle bit and a curb bit which provides the rider with the highest level of control and is also capable of causing the highest level of pain and confusing messages.

Tex showed no obvious signs of pain to the bit, an argument often used to justify brutal equipment in the sport of riding, but one doesn't have to look far to see the damage that bits and other equipment can do. One common injury from bits is tongue laceration, which can, worst case scenario, cause the horse to lose part of their tongue, says Dr. Bennett. I knew a horse at my barn who was rescued from a situation of abuse in which a bit was used so harshly that half her tongue was damaged beyond repair and had to be removed. Other less severe injuries include injuries to the bars, cuts on the cheeks, and damage to the teeth.

Bits are not the only equipment that can cause damage when used improperly. Whips and crops, which are used on the horse's flank, shoulder, or side to make them move forward have been known to cause cuts, welts, and bruising when used to excess. In horse racing, this problem is especially present, with jockeys under such high pressure to win that they are often resorting to

stronger and stronger hits to try to push the horses forward. Many states have recently taken steps to try to limit this in racing by putting limits on when and where a jockey can hit the horse. The whips and crops have also been redesigned to be more padded and gentle. But these measures don't go far enough to prevent pain, and outside of the racing business there are still no rules whatsoever.

Many argue that because horses are so big and muscular, that the crop doesn't hurt them no matter how hard they are hit. This is simply not true. According to the research by Lydia Tong, an Australian forensic veterinary pathologist, there are more nerve sensing fibers in the flank of a horse than there are in humans. They can sense a fly landing on their back and they can absolutely feel pain when smacked repeatedly in their most sensitive areas with a crop, padded or not. The same is true with spurs, which can vary from a dull nub to a sharp, multi-pronged wheel. With enough force, such equipment can leave visible injuries, with invisible pain occurring far before most riders are even aware.

Prey animals are more likely to hide their pain to avoid being noticed and picked off by predators. In the wild, a limping or otherwise hurt animal is the first to be isolated and attacked by predators because they are seen as "easy pickings." So horses, being one of the most prey-oriented species around, have learned not to show signs of pain, especially around predators (which we are). Therefore, when people argue that this equipment can't be hurting the horses if they aren't reacting to it, they are way off. Not only that, most horses *do* show signs of pain to aggressive uses of spurs, whips, and bits if the rider just pays attention to their signals.

But pain deniers are not the only ones who advocate the use of harsh equipment on horses. Many people believe pain is the only path to control. Pain is necessary to control horses, they say, that's why teaching a horse to be ridden is called "breaking them." Horses bite, kick,

and attack each other all the time in the wild, right? So why shouldn't we be able to use it to get what we want?

But the truth is, while horses can resort to methods of pain to communicate, it is rare and tends to be seen only in extreme cases. Most interactions between horses are very subtle, according to Sue M. McDonnell, PhD, certified applied animal behaviorist. There is a standard pattern of escalation, starting with interactions as subtle as a "look" to rearing (standing on hind legs) and biting each other's necks. The items at the top of the importance hierarchy include mostly competition for in-season mares. In this case, rival stallions may fight rather violently, trying to chase the other from the herd. However, a simple dispute over personal space (something commonly taught in the horse world as one of the key times to use force) rarely escalates further than some fierce posturing, says Dr. Stuska.

When people think of violence in the horse herd, it is almost always between 2 stallions. Although anyone who has worked around horses knows that mares can be just as fierce if not fiercer than stallions and geldings (neutered males), they are rarely seen resorting to violence to get their way. Part of this is because if it came to an all-out battle of strength, the mare wouldn't likely win, especially against a stallion much larger and more muscled than her. But most of the time that isn't an issue, because the mare doesn't need to prove physical dominance in order to gain the respect of her band.

The mare with the most power in any band is the alpha mare. She is not necessarily the strongest and may be older and slower. The alpha mare generally becomes the alpha mare because of her life experience and ability to prove her leadership and gain the trust of the rest of the herd. This is good news for horse people, because if horses only respected size and strength, we would never be able to get them to do anything.

Wendy Williams, biologist and author of The Horse: The Epic History of Our Noble Companion, writes of the research by Jason Ransom on the position of mares in a wild herd. According to his observations, the alpha mare lets the other horses know right away that she is to be obeyed, but that doesn't mean coming in guns-a-blazing. It is more of a presence that she possesses, an attitude that parts the seas for her as she moves. It is clear to the herd that the alpha mare will not stop until she gets what she wants.

Persistence is a key part of the power of the alpha mare, and it is a key part of our ability to lead horses as well. Persistence in the horse band often even beats out brute strength and speed in a face-to-face battle. Take the story of High Tail for example, a wild mare observed by Ransom who's band was taken over by a younger, stronger stallion who chased off her mate. For weeks, High Tail would try to run from the band to rejoin her mate and the stallion would chase her back. Eventually he grew tired of chasing her and let her go. And she got exactly what she wanted, no violence involved.

When riders resort to equipment to get their way with horses, it is often because they feel that they cannot generate enough force on their own and need the pain caused by the equipment in order to get the horse to react to what they are asking them to do. But a well-trained horse with respect for its rider will naturally strive to do what is asked of them and will only refuse when they are scared, confused, or unable to perform the task. Of course there are times when horses misbehave and act out, but with enough persistence from the rider they will usually do what they are asked in order to get the rider to stop asking. A quiet but firm signal when repeated is far more effective than a painful, loud one.

If after repeated asking of the horse, it still doesn't perform the task, it is very likely that they don't know how to give what the rider is asking for. For instance, smacking a horse

repeatedly with a whip down the final stretches of a race may make them go faster at first, but eventually the horse will run out of energy and be unable to push forward anymore no matter how much pain the rider is causing them. Not only that, but the continued smacking with the whip after they've given all they can will leave them confused as to whether or not they've done the right thing. After repeated occurrences of this, the horse will begin to think that the pain is random and unavoidable which will make them feel insecure.

When used properly, artificial aids such as whips, bits, and spurs can be effective tools for extending the natural aids of the seat, hands and legs. But when used as punishment or a way to try to assert dominance over the horse through pain, they can be damaging both physically and psychologically to the animal. Although I am not against the proper use of these tools, I began to wonder if Tex needed them at all. I swapped his bit, first from the double twisted wire to a less severe snaffle, and then took it off altogether, replacing the bridle with a halter and lead. At first I was scared that he would take advantage of my lack of control over him, but I soon learned that our connection was strong enough that he wanted to please me and would listen to the gentlest asks of my legs, seat, and hands.

Today, I never use a crop, spurs, or bit on Tex, not because I think that they are evil, but because I think that they are in most cases unnecessary. If your horse is connected to you and loves what they are doing, they will naturally want to do well. It took some time before Tex and I were competing at the same level without all of the equipment, but before long we were better than we ever had been. Without the artificial aids, Tex and I had to learn to be more in tune to one another, which made our overall partnership way better. And Tex, no longer worried about pain from doing the wrong thing, was secure enough to try his heart out. I still fumble sometimes. I still get angry and scared and feel out of control. Sometimes I long for equipment to

fix my problems, to make me feel bigger and stronger than I am. But then I look into my horse's eyes. And I remember who he is. And who I want to be.

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